Citizen Science Projects (MOOC) 2.6

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Tool in focus: COMMUNITY LEVEL INDICATORS

##Why is it helpful?

Community Level Indicators (CLIs) make the invisible visible. They are extra information a community of citizen science collects to complement sensor data. These measurements reflect the community's goals of the project and their needs. For example, if a community was concerned about air pollution in their area they might start a campaign to reduce the number of cars that drive on their street while using a sensor to monitor changes in air quality. The CLI, in this case, would be the measurement of car traffic and could be monitored over time to see if the actions of the campaign had successfully helped to reduce the number which drove on the specific street and if this decrease resulted in improved air quality.

##Description

It is difficult for people to understand how data are relevant to their lives, or how they are connected to the challenges they face. This is even more important when benchmarks are set by others (e.g. government officials or researchers) in a non-transparent way that do not relate to the community's concerns. CLIs are a good way to connect the dots between sensor data and real life. They also help participants to monitor the impact of their actions by tracking and measuring real change. The Community Level Indicators tool helps participants to

collaboratively choose what information will be collected, and how. You can also use this tool at the end of a data collection period, to see how actions have made a difference.

##Key Question

What change do we want to see happen, and how can we measure that change?

##Time needed

60-90 minutes

##Who should be included?

Facilitators, participants, external experts, government officials

##Number of people required

2-20 people (max recommended if the facilitator is running the session for the first time). Participants will be divided into groups of 4-5 people.

##Resources needed

A1 Community Level Indicators Canvas (see link at the bottom of this step), markers, pens, sticky notes and sticker dots.

##How to prepare?

Find a space with a few tables and chairs where people can sit comfortably for at least an hour. Having enough room to be able to give each table a bit of space is important. Try to limit each table to seat five people max.

Print the Community Level Indicators canvas, you can find it in the downloads section at the end of this article. Supply markers, pens, and sticky notes to each table but keep the Community Level Indicator canvas off to the side for the start of the activity.

##Steps:

1. Gather everyone together to decide on the aims or goals of your project. You can do this by using a quick ideation exercise: Ask everyone to jot down a change they hope will happen as a result of the campaign using the sticky notes and pens.

2. Once everyone has one or two ideas noted down, cluster similar ideas together. After this quick edit, ask everyone to vote with sticker dots on their preferred goal, the two with the highest number of votes are then used as the initial goals of the campaign.
3. Then, divide everyone into groups of 4-5 people, give each group a Community Level Indicator canvas for their table. Each group chooses a goal and uses the canvas to decide on the indicators that can be measured to track the progress of that goal. Each group also decides on the strategy and logistics for collecting these data. Ask the groups to consider: 'what', 'who', 'when' and 'how often' can these indicators be measured.
4. The groups repeat this process for up to three different indicators. When the activity is finished, each group presents their results back to everyone. Then, using sticker dots, everyone votes openly on the indicators they would most like to monitor. The indicators with the highest number of votes are then taken forward and tracked.
5. Participants keep a record of their indicators using data journals, or other devices, such as smartphones, to note information or take photographs. The indicators should be shared and analysed alongside the sensor data.

The Community Level Indicators tool was first created by the Making Sense project, the original tool can be found in (Citizen Sensing: A Toolkit)[https://doi.org/10.20933/100001112]. It is shared under the Creative Commons license CC BY-SA.

##Further Reading

Coulson, S, Woods, M, Scott, M, Hemment, D & Balestrini, M 2018, [Stop the Noise! Enhancing Meaningfulness in Participatory Sensing with Community Level Indicators](https://dl.acm.org/doi/10.1145/3196709.3196762). in *Proceedings of the 2018 Designing Interactive Systems Conference.* Association for Computing Machinery (ACM), pp. 1183-1192, Design interactive Systems 2018, Hong Kong, China, 9/06/18.

##Let us know your thoughts!

Have you tried this activity out? If so, please let us know how it went and what you learned. Do you have any tips for others who want to use this tool?

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